EX04-037patenting C20 Rec'd PCT/PTO 1 0 NOV 2009
SEQUENCE LISTING

<110> EXELIXIS, INC.

<120> RANBP2 AS MODIFIER OF THE PTEN/IGF PATHWAY AND METHODS OF USE

<130> EX04-037

<150> US 60/470,766
<151> 2003-05-14

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Ile Cys Thr Tyr Ile Asn Val Gln Glu Arg Asp Pro Lys Ala His Arg
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Phe Leu Gly Leu Leu Tyr Glu Leu Glu Glu Asn Thr Asp Lys Ala Val
65   70   75   80

Glu Cys Tyr Arg Arg Ser Val Glu Leu Asn Pro Thr Gln Lys Asp Leu
                85   90   95

Val Leu Lys Ile Ala Glu Leu Leu Cys Lys Asn Asp Val Thr Asp Gly
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Arg Ala Lys Tyr Trp Leu Glu Arg Ala Ala Lys Leu Phe Pro Gly Ser
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Pro Ala Ile Tyr Lys Leu Lys Glu Gln Leu Leu Asp Cys Glu Gly Glu
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Asp Gly Trp Asn Lys Leu Phe Asp Leu Ile Gln Ser Glu Leu Tyr Val
145   150   155   160

Arg Pro Asp Asp Val His Val Asn Ile Arg Leu Val Glu Val Tyr Arg
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Ser Thr Lys Arg Leu Lys Asp Ala Val Ala His Cys His Glu Ala Glu
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Arg Asn Ile Ala Leu Arg Ser Ser Leu Glu Trp Asn Ser Cys Val Val
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Gln Thr Leu Lys Glu Tyr Leu Glu Ser Leu Gln Cys Leu Glu Ser Asp
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Lys Ser Asp Trp Arg Ala Thr Asn Thr Asp Leu Leu Leu Ala Tyr Ala
225             230             235             240

Asn Leu Met Leu Leu Thr Leu Ser Thr Arg Asp Val Gln Glu Ser Arg
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Glu Leu Leu Gln Ser Phe Asp Ser Ala Leu Gln Ser Val Lys Ser Leu
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Gly Gly Asn Asp Glu Leu Ser Ala Thr Phe Leu Glu Met Lys Gly His
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Phe Tyr Met His Ala Gly Ser Leu Leu Leu Lys Met Gly Gln His Ser
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Ser Asn Val Gln Trp Arg Ala Leu Ser Glu Leu Ala Ala Leu Cys Tyr
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Leu Ile Ala Phe Gln Val Pro Arg Pro Lys Ile Lys Leu Ile Lys Gly
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Glu Ala Gly Gln Asn Leu Leu Glu Met Met Ala Cys Asp Arg Leu Ser
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Glu Asp Leu Thr Arg Tyr Asp Val Gly Ala Ile Arg Ala His Asn Gly
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Lys Ser Trp Trp Asp Ala Val Cys Thr Leu Ile His Arg Lys Ala Val
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Pro Gly Asn Val Ala Lys Leu Arg Leu Leu Val Gln His Glu Ile Asn
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Thr Leu Arg Ala Gln Glu Lys His Gly Leu Gln Pro Ala Leu Leu Val
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His Trp Ala Glu Cys Leu Gln Lys Thr Gly Ser Gly Leu Asn Ser Phe
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Tyr Asp Gln Arg Glu Tyr Ile Gly Arg Ser Val His Tyr Trp Lys Lys
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Val Leu Pro Leu Leu Lys Ile Ile Lys Lys Lys Asn Ser Ile Pro Glu
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Pro Ile Asp Pro Leu Phe Lys His Phe His Ser Val Asp Ile Gln Ala
625   630   635   640

Ser Glu Ile Val Glu Tyr Glu Glu Asp Ala His Ile Thr Phe Ala Ile
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Leu Asp Ala Val Asn Gly Asn Ile Glu Asp Ala Val Thr Ala Phe Glu
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Ser Ile Lys Ser Val Val Ser Tyr Trp Asn Leu Ala Leu Ile Phe His
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Arg Lys Ala Glu Asp Ile Glu Asn Asp Ala Leu Ser Pro Glu Glu Gln
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Glu Glu Cys Lys Asn Tyr Leu Arg Lys Thr Arg Asp Tyr Leu Ile Lys
705   710   715   720

Ile Ile Asp Asp Ser Asp Ser Asn Leu Ser Val Val Lys Lys Leu Pro
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Val Pro Leu Glu Ser Val Lys Glu Met Leu Asn Ser Val Met Gln Glu
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Leu Glu Asp Tyr Ser Glu Gly Gly Pro Leu Tyr Lys Asn Gly Ser Leu
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Arg Asn Ala Asp Ser Glu Ile Lys His Ser Thr Pro Ser Pro Thr Lys
    770   775   780

Tyr Ser Leu Ser Pro Ser Lys Ser Tyr Lys Tyr Ser Pro Lys Thr Pro
785   790   795   800

Pro Arg Trp Ala Glu Asp Gln Asn Ser Leu Leu Lys Met Ile Cys Gln
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Gln Val Glu Ala Ile Lys Lys Glu Met Gln Glu Leu Lys Leu Asn Ser
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Ser Asn Ser Ala Ser Pro His Arg Trp Pro Thr Glu Asn Tyr Gly Pro
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Asp Ser Val Pro Asp Gly Tyr Gln Gly Ser Gln Thr Phe His Gly Ala
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Pro Leu Thr Val Ala Thr Thr Gly Pro Ser Val Tyr Tyr Ser Gln Ser
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Pro Ala Tyr Asn Ser Gln Tyr Leu Leu Arg Pro Ala Ala Asn Val Thr
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Pro Thr Lys Gly Pro Val Tyr Gly Met Asn Arg Leu Pro Pro Gln Gln
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His Ile Tyr Ala Tyr Pro Gln Gln Met His Thr Pro Pro Val Gln Ser
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Ser Ser Ala Cys Met Phe Ser Gln Glu Met Tyr Gly Pro Pro Ala Leu
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Arg Phe Glu Ser Pro Ala Thr Gly Ile Leu Ser Pro Arg Gly Asp Asp
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Tyr Phe Asn Tyr Asn Val Gln Gln Thr Ser Thr Asn Pro Pro Leu Pro
            965   970   975

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Glu Pro Gly Tyr Phe Thr Lys Pro Pro Ile Ala Ala His Ala Ser Arg
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Ser Ala Glu Ser Lys Thr Ile Glu Phe Gly Lys Thr Asn Phe Val Gln
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Pro Met Pro Gly Glu Gly Leu Arg Pro Ser Leu Pro Thr Gln Ala
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His Thr Thr Gln Pro Thr Pro Phe Lys Phe Asn Ser Asn Phe Lys
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Ser Asn Asp Gly Asp Phe Thr Phe Ser Ser Pro Gln Val Val Thr
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Gln Pro Pro Pro Ala Ala Tyr Ser Asn Ser Glu Ser Leu Leu Gly
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Leu Leu Thr Ser Asp Lys Pro Leu Gln Gly Asp Gly Tyr Ser Gly
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Ala Lys Pro Ile Pro Gly Gly Gln Thr Ile Gly Pro Arg Asn Thr
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Phe Asn Phe Gly Ser Lys Asn Val Ser Gly Ile Ser Phe Thr Glu
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Asp Asp Met Phe Thr Phe His Gly Pro Gly Lys Ser Val Phe Gly
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Thr Pro Thr Leu Glu Thr Ala Asn Lys Asn His Glu Thr Asp Gly
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Gly Ser Ala His Gly Asp Asp Asp Asp Asp Gly Pro His Phe Glu
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Pro Val Val Pro Leu Pro Asp Lys Ile Glu Val Lys Thr Gly Glu
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Glu Asp Glu Glu Glu Phe Phe Cys Asn Arg Ala Lys Leu Phe Arg
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Val Lys Ile Leu Arg His Lys Thr Ser Gly Lys Ile Arg Leu Leu
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Met Arg Arg Glu Gln Val Leu Lys Ile Cys Ala Asn His Tyr Ile
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Ser Pro Asp Met Lys Leu Thr Pro Asn Ala Gly Ser Asp Arg Ser
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Phe Val Trp His Ala Leu Asp Tyr Ala Asp Glu Leu Pro Lys Pro
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Phe Lys Cys Lys Phe Glu Glu Ala Gln Ser Ile Leu Lys Ala Pro
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Lys Glu Pro Thr Ser His Asp Asn Lys Asp Ile Cys Lys Ser Asp
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Ala Gly Asn Leu Asn Phe Glu Phe Gln Val Ala Lys Lys Glu Gly
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Ser Trp Trp His Cys Asn Ser Cys Ser Leu Lys Asn Ala Ser Thr
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Ala Lys Lys Cys Val Ser Cys Gln Asn Leu Asn Pro Ser Asn Lys
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Glu Leu Val Gly Pro Pro Leu Ala Glu Thr Val Phe Thr Pro Lys
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Thr Ser Pro Glu Asn Val Gln Asp Arg Phe Ala Leu Val Thr Pro
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Lys Lys Glu Gly His Trp Asp Cys Ser Ile Cys Leu Val Arg Asn
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Glu Pro Thr Val Ser Arg Cys Ile Ala Cys Gln Asn Thr Lys Ser
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Ala Asn Lys Ser Gly Ser Ser Phe Val His Gln Ala Ser Phe Lys
                                    Page 23

        1445   1450   1455

Phe Gly Gln Gly Asp Leu Pro Lys Pro Ile Asn Ser Asp Phe Arg
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Ser Val Phe Ser Thr Lys Glu Gly Gln Trp Asp Cys Ser Ala Cys
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Leu Val Gln Asn Glu Gly Ser Ser Thr Lys Cys Ala Ala Cys Gln
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Asn Pro Arg Lys Gln Ser Leu Pro Ala Thr Ser Ile Pro Thr Pro
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Ser Gly Phe Glu Asp Met Phe Ala Lys Lys Glu Gly Gln Trp Asp
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Cys Ser Ser Cys Leu Val Arg Asn Glu Ala Asn Ala Thr Arg Cys
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Val Ala Cys Gln Asn Pro Asp Lys Pro Ser Pro Ser Thr Ser Val
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Pro Ala Pro Ala Ser Phe Lys Phe Gly Thr Ser Glu Thr Ser Lys
    1580   1585   1590

Ala Pro Lys Ser Gly Phe Glu Gly Met Phe Thr Lys Lys Glu Gly
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Gln Trp Asp Cys Ser Val Cys Leu Val Arg Asn Glu Ala Ser Ala
    1610   1615   1620

Thr Lys Cys Ile Ala Cys Gln Asn Pro Gly Lys Gln Asn Gln Thr
    1625   1630   1635

Thr Ser Ala Val Ser Thr Pro Ala Ser Ser Glu Thr Ser Lys Ala
    1640   1645   1650

Pro Lys Ser Gly Phe Glu Gly Met Phe Thr Lys Lys Glu Gly Gln
    1655   1660   1665

Trp Asp Cys Ser Val Cys Leu Val Arg Asn Glu Ala Ser Ala Thr
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Lys Cys Ile Ala Cys Gln Asn Pro Gly Lys Gln Asn Gln Thr Thr
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Lys Ser Gly Phe Glu Gly Met Phe Thr Lys Lys Glu Gly Gln Trp
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Cys Ile Ala Cys Gln Cys Pro Ser Lys Gln Asn Gln Thr Thr Ala
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Ile Ser Thr Pro Ala Ser Ser Glu Ile Ser Lys Ala Pro Lys Ser
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Val Cys Cys Val Gln Asn Glu Ser Ser Ser Leu Lys Cys Val Ala
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Cys Asp Ala Ser Lys Pro Thr His Lys Pro Ile Ala Glu Ala Pro
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Ser Ala Phe Thr Leu Gly Ser Glu Met Lys Leu His Asp Ser Ser
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Gly Ser Gln Val Gly Thr Gly Phe Lys Ser Asn Phe Ser Glu Lys
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Ala Ser Lys Phe Gly Asn Thr Glu Gln Gly Phe Lys Phe Gly His
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Val Asp Gln Glu Asn Ser Pro Ser Phe Met Phe Gln Gly Ser Ser
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Asn Thr Glu Phe Lys Ser Thr Lys Glu Gly Phe Ser Ile Pro Val
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Ser Ala Asp Gly Phe Lys Phe Gly Ile Ser Glu Pro Gly Asn Gln
1895   1900   1905

Glu Lys Lys Ser Glu Lys Pro Leu Glu Asn Gly Thr Gly Phe Gln
1910   1915   1920

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Ala Gln Asp Ile Ser Gly Gln Lys Asn Gly Arg Gly Val Ile Phe
    1925   1930   1935

Gly Gln Thr Ser Ser Thr Phe Thr Phe Ala Asp Leu Ala Lys Ser
    1940   1945   1950

Thr Ser Gly Glu Gly Phe Gln Phe Gly Lys Lys Asp Pro Asn Phe
    1955   1960   1965

Lys Gly Phe Ser Gly Ala Gly Glu Lys Leu Phe Ser Ser Gln Tyr
    1970   1975   1980

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Asp Asp Asp Ala Tyr Lys Thr Glu Asp Ser Asp Asp Ile His Phe
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Ile Thr Thr Thr Met Asn Leu Lys Pro Leu Ser Gly Ser Asp Arg
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Glu Phe Lys Gln Lys Phe Glu Glu Cys Gln Arg Leu Leu Leu Asp
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Ile Pro Leu Gln Thr Pro His Lys Leu Val Asp Thr Gly Arg Ala
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Ile Leu Gln Asn Tyr Asp Asn Lys Gln Val Arg Ile Val Met Arg
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Arg Asp Gln Val Leu Lys Leu Cys Ala Asn His Arg Ile Thr Pro
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2390   2395   2400

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Leu Ala Val Arg Phe Lys Leu Gln Asp Val Ala Asp Ser Phe Lys
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Lys Ile Phe Asp Glu Ala Lys Thr Ala Gln Glu Lys Asp Ser Leu
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Ile Phe Ser Ser Glu Lys Ser Lys Pro Phe Ala Phe Gly Asn Ser
    2525   2530   2535

Ser Ala Thr Gly Ser Leu Phe Gly Phe Ser Phe Asn Ala Pro Leu
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Lys Ser Asn Asn Ser Glu Thr Ser Ser Val Ala Gln Ser Gly Ser
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Glu Ser Lys Val Glu Pro Lys Lys Cys Glu Leu Ser Lys Asn Ser
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Asp Ile Glu Gln Ser Ser Asp Ser Lys Val Lys Asn Leu Phe Ala
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Ser Phe Pro Thr Glu Glu Ser Ser Ile Asn Tyr Thr Phe Lys Thr
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Pro Glu Lys Ala Lys Glu Lys Lys Lys Pro Glu Asp Ser Pro Ser
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Asp Asp Asp Val Leu Ile Val Tyr Glu Leu Thr Pro Thr Ala Glu
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Gln Lys Ala Leu Ala Thr Lys Leu Lys Leu Pro Pro Thr Phe Phe
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Cys Tyr Lys Asn Arg Pro Asp Tyr Val Ser Glu Glu Glu Glu Asp
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    2735   2740   2745

Asn Gly Glu Asp Phe Gln Ser Glu Leu Gln Lys Val Gln Glu Ala
    2750   2755   2760

Gln Lys Ser Gln Thr Glu Glu Ile Thr Ser Thr Thr Asp Ser Val
    2765   2770   2775

Tyr Thr Gly Gly Thr Glu Val Met Val Pro Ser Phe Cys Lys Ser
    2780   2785   2790

Glu Glu Pro Asp Ser Ile Thr Lys Ser Ile Ser Ser Pro Ser Val
    2795   2800   2805

Ser Ser Glu Thr Met Asp Lys Pro Val Asp Leu Ser Thr Arg Lys
    2810   2815   2820

Glu Ile Asp Thr Asp Ser Thr Ser Gln Gly Glu Ser Lys Ile Val
    2825   2830   2835

Ser Phe Gly Phe Gly Ser Ser Thr Gly Leu Ser Phe Ala Asp Leu
    2840   2845   2850

Ala Ser Ser Asn Ser Gly Asp Phe Ala Phe Gly Ser Lys Asp Lys
    2855   2860   2865

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Asn Phe Gln Trp Ala Asn Thr Gly Ala Ala Val Phe Gly Thr Gln
    2870   2875   2880

Ser Val Gly Thr Gln Ser Ala Gly Lys Val Gly Glu Asp Glu Asp
    2885   2890   2895

Gly Ser Asp Glu Glu Val Val His Asn Glu Asp Ile His Phe Glu
    2900   2905   2910

Pro Ile Val Ser Leu Pro Glu Val Glu Val Lys Ser Gly Glu Glu
    2915   2920   2925

Asp Glu Glu Ile Leu Phe Lys Glu Arg Ala Lys Leu Tyr Arg Trp
    2930   2935   2940

Asp Arg Asp Val Ser Gln Trp Lys Glu Arg Gly Val Gly Asp Ile
    2945   2950   2955

Lys Ile Leu Trp His Thr Met Lys Asn Tyr Tyr Arg Ile Leu Met
    2960   2965   2970

Arg Arg Asp Gln Val Phe Lys Val Cys Ala Asn His Val Ile Thr
    2975   2980   2985

Lys Thr Met Glu Leu Lys Pro Leu Asn Val Ser Asn Asn Ala Leu
    2990   2995   3000

Val Trp Thr Ala Ser Asp Tyr Ala Asp Gly Glu Ala Lys Val Glu
    3005   3010   3015

Gln Leu Ala Val Arg Phe Lys Thr Lys Glu Val Ala Asp Cys Phe
    3020   3025   3030

Lys Lys Thr Phe Glu Glu Cys Gln Gln Asn Leu Met Lys Leu Gln
    3035   3040   3045

Lys Gly His Val Ser Leu Ala Ala Glu Leu Ser Lys Glu Thr Asn
    3050   3055   3060

Pro Val Val Phe Phe Asp Val Cys Ala Asp Gly Glu Pro Leu Gly
    3065   3070   3075

Arg Ile Thr Met Glu Leu Phe Ser Asn Ile Val Pro Arg Thr Ala
    3080   3085   3090

Glu Asn Phe Arg Ala Leu Cys Thr Gly Glu Lys Gly Phe Gly Phe
    3095   3100   3105

Lys Asn Ser Ile Phe His Arg Val Ile Pro Asp Phe Val Cys Gln
    3110   3115   3120

Gly Gly Asp Ile Thr Lys His Asp Gly Thr Gly Gly Gln Ser Ile
    3125   3130   3135

Tyr Gly Asp Lys Phe Glu Asp Glu Asn Phe Asp Val Lys His Thr
    3140   3145   3150

Gly Pro Gly Leu Leu Ser Met Ala Asn Gln Gly Gln Asn Thr Asn
    3155   3160   3165

Asn Ser Gln Phe Val Ile Thr Leu Lys Lys Ala Glu His Leu Asp
    3170   3175   3180

Phe Lys His Val Val Phe Gly Phe Val Lys Asp Gly Met Asp Thr
    3185   3190   3195

Val Lys Lys Ile Glu Ser Phe Gly Ser Pro Lys Gly Ser Val Cys
    3200   3205   3210

Arg Arg Ile Thr Ile Thr Glu Cys Gly Gln Ile
    3215   3220